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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
RAWLINGS, STEPHEN L	
ART UNIT	**PAPER NUMBER**
1642	

DATE MAILED: 06/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/038,241	CONKLIN ET AL.	
	Examiner	Art Unit	
	Stephen L. Rawlings, Ph.D.	1642	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 March 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,5-11,14 and 26-32* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,5-11,14 and 26-32* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *20031215*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. The election with traverse filed March 12, 2004 is acknowledged and has been entered; however, because Applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election *without* traverse (MPEP § 818.03(a)).

2. The amendment filed March 12, 2004 is acknowledged and has been entered. Claims 4, 12, 13, and 15-25 have been canceled. Claims 1-3 and 8 have been amended. Claims 26-32 have been added.

3. Claims 1-3, 5-11, 14, and 26-32 are pending in the application and are currently under prosecution.

Information Disclosure Statement

4. The information disclosure filed December 15, 2003 has been considered. An initialed copy is enclosed.

Specification

5. The disclosure is objected to because the disclosure refers to embedded hyperlinks and/or other forms of browser-executable code and to the Internet contents so identified; see, e.g., page 81, lines 9 and 10; and page 104, line 5. Reference to hyperlinks and/or other forms of browser-executable code and to the Internet contents so identified is impermissible and therefore requires deletion.

The attempt to incorporate essential or non-essential subject matter into the patent application by reference to a hyperlink and/or other forms of browser-executable code is considered to be an improper incorporation by reference. See MPEP § 608.01(p), paragraph I regarding acceptable incorporation by reference.

6. The specification is objected to because the use of numerous improperly demarcated trademarks has been noted in this application. Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner that might adversely affect their validity as trademarks. See MPEP § 608.01(v).

Examples of improperly demarcated trademarks include Qiaquick™ (page 89, line 21), Hybond™ (page 89, line 26), Nuctrap™ (page 90, line 10), Qiagen™ (page 94, lines 27), Seaplaque™ (page 94, line 26), and Nusieve™ (page 94, line 26).

Appropriate correction is required. Each letter of a trademark should be capitalized or otherwise the trademark should be demarcated with the appropriate symbol indicating its proprietary nature (e.g., ™, ®), and accompanied by generic terminology. Applicants may identify trademarks using the "Trademark" search engine under "USPTO Search Collections" on the Internet at http://www.uspto.gov/web/menu/search.html.

Claim Objections

7. Claims 1, 5, 8, 26, and 27 are objected to because of the use of a comma following "(His)" and/or "(Met)". The claims appear to be improperly punctuated. Explanation or appropriate correction is required.

Claim Rejections - 35 USC § 101

8. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

9. Claims 1-3, 5-11, 14, and 26-32 are rejected under 35 U.S.C. § 101 because the claimed invention is not supported by either a specific and substantial asserted utility or a well-established utility.

Claims 1-3, 5-11, 14, and 26-32 are drawn to a nucleic acid molecule encoding a polypeptide, a polynucleotide complementary to said nucleic acid molecule, an expression vector comprising said nucleic acid molecule, a cultured cell comprising said expression vector, and a method of producing a polypeptide comprising culturing said cultured cell.

The instant application provides a description of a polynucleotide sequence, which putatively encodes a protein that is similar to a cytokine. The putative protein, which has the predicted amino acid sequence set forth in SEQ ID NO: 2, is what is termed in the art, an "orphan protein". This is a protein that is encoded by a complementary DNA (cDNA) molecule, which has been isolated or characterized by virtue of its having a polynucleotide sequence having similarity to other known cDNA molecules. The observed similarity between the polynucleotide sequences, or the amino acid sequences encoded thereby often leads to speculation that the protein will be found to have a particular function. In this instance, the polynucleotide sequence encoding SEQ ID NO: 2 is similar to a polynucleotide sequence encoding a cytokine. The specification discloses, "Zlmda24 is believed to be a new member of the short-helix form cytokine group" (page 15, lines 13 and 14). Yet, the specification provides no disclosures that the skilled artisan would accept as factual evidence that the polypeptide of SEQ ID NO: 2 actually functions as a cytokine.

Skolnick, et al (*Trends in Biotechnology* **18**: 34-39, 2000) discloses the skilled artisan is well aware that assigning functional activities for any particular protein or protein family based upon sequence homology is inaccurate, in part because of the multifunctional nature of proteins (see, e.g., the abstract; and page 34, *Sequence-based approaches to function prediction*). Even in situations where there is some confidence of a similar overall structure between two proteins, only experimental research can confirm the artisan's best guess as to the function of the structurally related protein (see, in particular, the abstract and Box 2). Thus, one skilled in the art would not accept the assertion, which is

based only upon an observed similarity in amino acid sequence, that the polypeptide of SEQ ID NO: 2 is functions as a cytokine.

Indeed, it is not unlikely that after further characterization the protein of SEQ ID NO: 2 will be found to have a specific utility. However, until the further characterization of the protein encoded by the newly discovered polynucleotide sequence has been completed establishing the protein's putative function, the polynucleotide sequence is only a novelty, and the claimed antibody is therefore not a finished invention having an established utility.

Nevertheless, the specification asserts a number of possible uses for the claimed invention. For example, at page 73, lines 19-25, the specification asserts the protein encoded by the claimed invention may be important in regulating inflammation, and could therefore be useful in treating a variety of diseases, or it may have a role in tumorigenesis, and could therefore be useful in treating cancer. At page 74, lines 9 and 10, the specification asserts the protein encoded by the claimed nucleic acid molecule may activate the immune system, which would be important in boosting immunity to infectious diseases, treating immunocompromised patients, such as HIV+ patients, or in improving vaccines. At page 79, lines 12 and 13, the specification asserts the claimed invention provides reagents that will find use in diagnostic applications.

However, not all of the asserted uses are specific uses for the claimed invention, since some of the uses are generically applied to the class of molecule; and these generic asserted utilities are not well-established utilities, because a well established utility must also be a specific, substantial, and credible asserted utility. For example, the specification asserts the claimed nucleic acid molecules can be used as a probe to determine the presence of a nucleic acid molecule in a sample to which the probe hybridizes, but this asserted utility lacks specificity, since any nucleic acid molecule can be used in that manner. In addition, the specification asserts the protein encoded by the claimed invention can be used as an immunogen to produce an antibody that binds the protein, but, again, because any protein can be used in such a manner,

the asserted utility is not a specific utility; rather, it is a generic utility, the usefulness of which is not related to the specific chemical and biologic nature of the claimed invention.

While some of the asserted utilities of the claimed invention might ultimately be regarded as specific to the chemical and biologic nature of the claimed nucleic acid molecule, or the protein encoded thereby, the existing information disclosed by Applicant's application would merely provide the artisan with an invitation to perform further investigation, which might ultimately lead to the derivation of a specific use for the claimed invention that might benefit the public, or which might not; but in either case, an immediate benefit could not be derived from the use of the claimed invention because the existing information is insufficient to allow the artisan to use the disclosure in the manner asserted to provide an immediate benefit to the public. Accordingly, the claimed invention lacks a specific and substantial asserted utility. To fulfill the requirements of 35 USC § 101, the skilled artisan must be able to use a claimed invention in the manner asserted by Applicant's to provide some immediate benefit to the public, i.e., without having to first elaborate upon the Applicant's disclosure of the invention to devise a specific utility for the claimed invention.

At page 82, lines 1-6, for example, the specification asserts the claimed invention can be used diagnostically. However, the specification does not teach the expression of the nucleic acid molecule of SEQ ID NO: 1, or the activity of the protein encoded by the nucleic acid molecule, is associated with any particular disease or disorder. Accordingly, before the claimed invention could be used diagnostically in a manner that might benefit the public, the artisan would need to determine if the expression of the nucleic acid molecule encoding the polypeptide of SEQ ID NO: 2, or the activity of the polypeptide encoded by the nucleic acid molecule is associated with the onset or progression of a disease or disorder, such that the expression level or activity level might be a diagnostic marker of the disease or disorder.

Regarding the possibility that the claimed invention might be used to assess whether a patient is afflicted with cancer, for example, Ward (*Developmental Oncology* 1985; **21**: 91-106) teaches not all markers can be reliably used in primary diagnosis. Ward teaches that a number of tumor-associated markers are, in fact, diagnostically unreliable. Rather, Ward teaches some markers are more useful as guides in monitoring the efficacy of treatment modules for malignant disease. Thus, even if data were presented showing that the nucleic acid molecule of SEQ ID NO: 1 is abnormally expressed in a particular type of cancer, such data would not be immediately useful, or indicative that the differential expression of the nucleic acid molecule can be used to diagnose that type of cancer.

Critchfield (*Disease Markers* **15**: 108-111, 1999) teaches: "Indeed, to truly benefit society, the clinical value of the gene must be established" (page 109, column 1). Following the discovery of a novel gene Critchfield discusses the lengthy process that is involved in determining its usefulness as a biomarker for diagnosis; and in view of Critchfield, given only the benefit of Applicant's present disclosure of the invention, it is apparent the skilled artisan could not immediately use the claimed invention in a manner that might benefit the public.

Regarding the possibility that the claimed invention might be therapeutically useful, the art of drug discovery for is highly unpredictable. With regard to anticancer drug discovery, for example, Gura (*Science* 1997; **278**: 1041-1042) teaches that researchers face the problem of sifting through potential anticancer agents to find ones promising enough to make human clinical trials worthwhile (abstract). Gura teaches that since formal screening began in 1955, many thousands of drugs have shown activity in either cell or animal models, but that only 39 have actually been shown to be useful for chemotherapy (page 1041, first and second paragraphs). Moreover, because of the lack of predictability in the art, Gura discloses that often researchers merely succeed in developing a therapeutic agent that is useful for treating the animal or cell that has been used as a model, but which is ineffective in humans, indicating that the

results acquired during pre-clinical studies are often non-correlative with the results acquired during clinical trials (page 1041, column 2).

Although the teachings of Bergers et al. (*Current Opinion in Genetics and Development* 2000; **10**: 120-127) are drawn to specific antitumor agents, namely matrix metalloproteinase inhibitors, the great extent of unpredictability in the art is underscored by the disclosures of Berger et al. Bergers et al. teaches, "a body of data over the past few years indicate [...] that proteinases and proteinase inhibitors may, under special circumstance, either favor or block tumor progression. For example, ectopic expression of TIMP-1 [a natural inhibitor of metalloproteinases] allows for some tumors to grow, while inhibiting others" (page 125, column 2). In fact, Bergers et al., discloses that the Bayer Corporation recently halted a clinical trial of a metalloproteinase inhibitor because patients given the drug experienced greater progression of cancer than did patients given a placebo (page 125, column 1). Bergers et al. comments, "these results are somewhat surprising and contrary to Bayers' preclinical data, which confirmed that the drug inhibited tumor activity in rodents" (page 124, columns 1-2). The disclosure of Bergers et al. also teaches that the absence of a metalloproteinase activity in mice actually predisposes the mice to *de novo* squamous carcinomas. Thus, it is relatively clear that one skilled in the art cannot predict the effect of administering to a subject a pharmaceutical composition comprising an invention that is purported to have a desired pharmacological effect.

In summary of the above, the instant claims are drawn to a nucleic acid molecule encoding a protein, the expression or activity of which, as yet, bears no established association with the incidence or recurrence of any particular disease or disorder. Until some actual and specific significance can be attributed to expression or activity of the claimed invention, the inventive process has not been refined or developed to a point where a specific benefit can be derived by the public from the granting of a patent upon the Applicant's application. In the absence of any established significance to the expression, or lack thereof, of the

nucleic acid molecule encoding the polypeptide of SEQ ID NO: 2, or the activity, or lack thereof, of the protein, there is no immediately obvious "patentable" use for the claimed invention. To employ the disclosure of the novel nucleic acid molecule of SEQ ID NO: 1 in the diagnosis, or assessment of the presence or recurrence of a disease, as is the asserted utility of the claimed invention, would require further research, which should be regarded as constituting part of the inventive process. To employ the disclosure in developing a means to treat a disease associated with inflammation, as is the asserted utility, would similarly require further research. Because the specification does not disclose a currently available, "real world" use for the claimed invention, the requirements set forth under 35 U.S.C. § 101 have not been met.

Finally, it is duly noted that the claims are not limited to a nucleic acid molecule encoding a polypeptide comprising the amino acid sequence set forth as SEQ DI NO: 2, or to a nucleic acid molecule comprising SEQ ID NO: 1 or SEQ ID NO: 5, since the claims are also directed to a polynucleotide that is complementary to a nucleic acid molecule encoding SEQ ID NO: 2. While the specification has disclosed asserted utilities for a nucleic acid encoding SEQ ID NO: 2, albeit asserted utilities that are neither specific and substantial nor well-established, the specification does not disclose asserted utilities for any polynucleotide that is complementary to a nucleic acid molecule encoding SEQ ID NO: 2, apart from possibly asserting its usefulness as a probe. As only the nucleic acid molecules of SEQ ID NO: 1 and SEQ ID NO: 5 encode the polypeptide of SEQ ID NO: 2, a large number of the claimed polynucleotides that are complementary to a nucleic acid molecule encoding SEQ ID NO: 2 will not encode the polypeptide of SEQ ID NO: 2; and the proteins that are encoded by these polynucleotides are not reasonably expected to be useful in the same manner as the polypeptide of SEQ ID NO: 2, since the proteins are expected to differ markedly in structure and function from the polypeptide of SEQ ID NO: 2. Because the specification does not teach any use for such polynucleotides, the skilled artisan could not immediately use the claimed polynucleotides in a

manner that might provide benefit to the public; the skilled artisan would first have to discover a use for the claimed polynucleotides that is specific to the chemical and biologic nature of the polynucleotide or the polypeptide encoded thereby.

Furthermore, broadly interpreted, claims 11, 14, and 32 are directed to a method for producing any fusion protein or polypeptide produced by the cultured cells of claims 10, 7, and 31, respectively. However, as discussed above, the specification merely discloses uses for the polypeptide of SEQ ID NO: 2, which is encoded by the claimed nucleic acid molecules of SEQ ID NO: 1 and SEQ ID NO: 5. Because the specification does not teach any use for the other fusion proteins or polypeptides produced by the cultured cells of claims 7, 10, and 32, the skilled artisan could not immediately use the claimed invention in a manner that might provide benefit to the public; the skilled artisan would first have to discover a use for the polypeptides produced using the claimed invention that is specific to the chemical and biologic nature of the polypeptide.

Claim Rejections - 35 USC § 112

10. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

11. Claims 1-3, 5-11, 14, and 26-32 are also rejected under 35 U.S.C. 112, first paragraph. Specifically, since the claimed invention is not supported by either a specific and substantial asserted utility or a well-established utility for the reasons set forth in section 9 above, one skilled in the art clearly would not know how to use the claimed invention.

12. Claims 1-3, 5-11, 14, and 26-32 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in

such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The claims are drawn to a genus of polynucleotides that encode a polypeptide comprising polynucleotide sequence that is complementary to a nucleic acid molecule encoding a polypeptide comprising the amino acid sequence, or a specified portion thereof, of SEQ ID NO: 2. The members of the genus of polynucleotides vary markedly in structure and function, since the members encode polypeptides that vary markedly in structure and function. However, the specification merely provides an adequate description of the nucleic acid molecules of SEQ ID NO: 1 and SEQ ID NO: 5, which both encode a polypeptide comprising the amino acid sequence set forth as SEQ ID NO: 2, without disclosing particularly identifying characteristics of SEQ ID NO: 1 or SEQ ID NO: 5, or of the protein encoded thereby, that are shared by at least a substantial number of the other members of the claimed genus. Accordingly, SEQ ID NO: 1 and SEQ ID NO: 5 cannot be regarded as representative of the claimed genus of polynucleotides.

Furthermore, broadly interpreted, claims 11, 14, and 32 are directed to a method for producing any member of a genus of fusion proteins or polypeptides produced by the cultured cells of claims 10, 7, and 31, respectively. However, the specification merely describes the polypeptide of SEQ ID NO: 2, which is encoded by the claimed nucleic acid molecules of SEQ ID NO: 1 and SEQ ID NO: 5. Because the specification does not describe the other fusion proteins or polypeptides produced by the cultured cells of claims 7, 10, and 32, the specification would not reasonably convey to the skilled artisan that Applicant had possession of the claimed invention at the time the application was filed.

MPEP § 2163.02 states, "[a]n objective standard for determining compliance with the written description requirement is, 'does the description clearly allow persons of ordinary skill in the art to recognize that he or she invented what is claimed' ". The courts have decided:

> The purpose of the "written description" requirement is broader than to merely explain how to "make and use"; the applicant must convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession *of the invention*. The invention is, for purposes of the "written description" inquiry, *whatever is now claimed*.

See *Vas-Cath, Inc. v. Mahurkar*, 935 F.2d 1555, 1563-64, 19 USPQ2d 1111, 1117 (Federal Circuit, 1991). Furthermore, the written description provision of 35 USC § 112 is severable from its enablement provision; and adequate written description requires more than a mere statement that it is part of the invention and reference to a potential method for isolating it. See *Fiers v. Revel*, 25 USPQ2d 1601, 1606 (CAFC 1993) and *Amgen Inc. V. Chugai Pharmaceutical Co. Ltd.,* 18 USPQ2d 1016.

The Guidelines for Examination of Patent Applications Under the 35 U.S.C. 112, paragraph 1, ``Written Description'' Requirement (66 FR 1099-1111, January 5, 2001) state, "[p]ossession may be shown in a variety of ways including description of an actual reduction to practice, or by showing the invention was 'ready for patenting' such as by disclosure of drawings or structural chemical formulas that show that the invention was complete, or by describing distinguishing identifying characteristics sufficient to show that the applicant was in possession of the claimed invention" (*Id.* at 1104). The *Guidelines* further state, "[f]or inventions in an unpredictable art, adequate written description of a genus which embraces widely variant species *cannot* be achieved by disclosing only one species within the genus" (Id. at 1106); accordingly, it follows that an adequate written description of a genus cannot be achieved in the absence of a disclosure of at least one species within the genus. Because the claims encompass a genus of variant species, an adequate written description of the claimed invention must include sufficient description of at least a representative number of species by actual reduction to practice, reduction to drawings, or by disclosure of relevant, identifying characteristics sufficient to show that Applicant was in possession of the claimed genus. However, factual evidence of an actual reduction to practice has not been disclosed by Applicant in the specification; nor has Applicant shown the invention was "ready for patenting" by disclosure of

drawings or structural chemical formulas that show that the invention was complete; nor has Applicant described distinguishing identifying characteristics sufficient to show that Applicant had possession of the claimed invention at the time the application was filed.

13. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

14. Claims 1, 2, 26, and 28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1, 2, 26, and 28 are indefinite because it cannot be determined if "(c) a polynucleotide sequence complementary to (a) or (b)" is, or is not, a third member of the Markush groups recited in the claims. While marking the polynucleotide sequence complementary to (a) or (b) as "(c)" suggests the polynucleotide sequence is a member of the Markush group, according to the preamble, the Markush groups of claims 1 and 26, for example, are supposed to consist of sequences of amino acids; a polynucleotide sequence is not a sequence of amino acids. Contrary to the indications of marking the polynucleotide sequence complementary to (a) or (b) as "(c)", if the polynucleotide sequence complementary to (a) or (b) is not a member of the Markush group, the metes and bounds of the claimed invention cannot be determined for the following reason: It cannot be determined if the claim is drawn to an isolated polynucleotide that encodes a polypeptide comprising a polynucleotide sequence complementary to (a) or (b), or perhaps to an isolated polynucleotide that encodes a polypeptide comprising an amino acid sequence selected from the group consisting of (a) or (b) and a polynucleotide sequence complementary to (a) or (b). In addition, the Markush groups of claims 2 and 28 are supposed to consist of polynucleotides, but the members (a), (b) and (c) are each "a polynucleotide sequence"; a polynucleotide can comprise, or consist of a polynucleotide sequence, but it is not a polynucleotide sequence.

Claim Rejections - 35 USC § 102

15. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

16. Claims 1, 2, and 26-28 are rejected under 35 U.S.C. 102(b) as being anticipated by Boehringer Mannheim *Biochemicals,* 1994 Catalog (No. 1034 731/1006 924), page 93.

Claims 1, 2, and 26-28 are drawn to a polynucleotide that is complementary to an isolated polynucleotide encoding a polypeptide comprising the amino acid sequence, or a specified portion thereof, of SEQ ID NO: 2.

Boehringer Mannheim teaches a collection of random primers, or isolated polynucleotides. Each primer is 6 nucleotides in length. The collection comprises primers having every possible nucleotide sequence. Accordingly, the collection comprises primers having a polynucleotide sequence that is completely complementary to any and every 6 nucleotide fragment of a polynucleotide encoding a polypeptide comprising the amino acid sequence, or a specified portion thereof, of SEQ ID NO: 2.

Conclusion

18. No claims are allowed.

19. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure. Bowie, Burgess et al., and Lazar et al. teach the state of the art and exemplify the degree of unpredictably associated with the art. Tockman et al. teaches considerations in bringing a cancer biomarker to clinical application.

20. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen L. Rawlings, Ph.D. whose telephone number is (571) 272-0836. The examiner can normally be reached on Monday-Friday, 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Chan can be reached on (571) 272-0841. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Stephen L. Rawlings, Ph.D.
Examiner
Art Unit 1642

slr
May 26, 2004

CHRISTINA CHAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1600